for its subsequent erection. The whole work of erection was successfully completed in three weeks.

The A.E.G. alternator was not in actual operation at Paris, but was rotated for exhibition purposes by a small motor. An equally large generating set was exhibited by the Helios Company, driven by a triple-expansion engine and used for the lighting of the exhibition. This machine was of special design, as the makers desired to satisfy the requirements of the exhibition authorities and also to make the alternator suitable for subsequent disposal for other purposes. Another alternator of special interest was that exhibited by the Société l'Éclairage Électrique, which generated at 30,000 volts. This was designed more as an experimental machine, to show the possibility of directly generating at very high pressure and so dispensing with step-up transformers. The alternator had only an output of 180 k.v.-a. It is interesting in this connection to recall that last February Messrs. Schuchert and Co. completed three 1500 kw. three-phase alternators generating at 20,000 volts, for supplying power to the Valtellina Railway.

M. Guilbert has collected together all the chief data of the various machines in ten tables as an appendix at the end of the book. There is also given as an appendix a series of twenty oscillograph curves showing the potential wave-forms of a number of the alternators. These, which were taken by means of M. Blondel's oscillograph, though very interesting, are hardly accompanied by sufficient data to make them of great value. A casual inspection is, however, sufficient to show that, as M. Guilbert remarks, much progress remains to be made in the construction of alternators before a practically sinusoidal potential-curve is obtained. Yet though much remains to be done, much has already been accomplished, and the manufacturer of the modern dynamo has nothing of which to be ashamed. His machines are efficient, and he has shown that he is capable of making them of a size suitable to the ever-increasing requirements, and there can be little doubt that when the time arrives he will be able to meet still greater demands. It is not likely to be long before these are made, especially for generators for traction work. But a year or two ago the Westinghouse Company built two 2700 kw. generators for the Boston Elevated Railway; one is inclined to ask what the size of the units will be when, say, the London and North-Western or the Canadian Pacific Railway is run electrically. We can only hope that it will not be long before an answer has to be given to his question; that our progress in the future will be as rapid and as sound as it has been in the past; and that the next seventy years will be as full of development and improvement as have been the seventy which have passed since Faraday "did not despair of being able to construct a new electrical machine." M. S.

OUR BOOK SHELF.

Thirteenth Annual Report of the Local Government Board, 1900–1. Supplement containing the Report of the Medical Officer for 1900–1. (London: Eyre and Spottiswoode, 1902.)

THE scientific memoirs contained in this volume are of considerable interest. Drs. Klein and Houston have investigated the behaviour of pathogenic organisms when inoculated upon various farinaceous media, and conclude that the likelihood of infection of the human subject from such source is probably remote. A number of food-stuffs were similarly examined by Dr. Klein for the presence of pathogenic organisms, with the result that none was found. Dr. Gordon has continued his studies upon the bacteriology of scarlatina, and he adduces further proof that the *Streptococcus scarlatinae* is a species distinct from other streptococci and that it may be the causative organism of this disease. Two papers are concerned with the behaviour of micro-organisms when inoculated into the soil. In the first, Dr. Houston inoculated soil with crude sewage, and found that on the whole the soil-microbes ousted the sewage ones and that the addition of sewage to soil resulted in a temporary increase only of the sewage microbes. In the second, Dr. Sidney Martin has continued his work upon the nature of the antagonism of the soil to the typhoid bacillus; this organism survives but a short time in the soil, being destroyed by the products of the putrefactive bacteria which exist therein. Dr. Klein also reports on the infection of cockles and mussels with the typhoid and cholera microbes, and shows that these organisms may persist in the interior of the molluscs for some time after the source of infection has been removed. The importance of rats in the dissemination of plague has induced Dr. Haldane to devise an apparatus for generating carbonic oxide gas for destroying these pests in plague-infected ships. This is described and some experiments with it are detailed. There is also an interesting report upon research work in connection with glycerinated vaccine lymph. The volume concludes with a number of well-executed photographs illustrating the various papers. R. T. HEWLETT.

The Flora of the East Riding of Yorkshire. By J. F Robinson. Pp. vii + 253. (London: A. Brown and Sons.) Price 7*s.* 6*d.*

THE "Flora of the North Riding of Yorkshire," compiled by Mr. J. G. Baker so long ago as 1863, furnishes a delightful account of the plants and the plant-associations of that division. Dr. F. A. Lees is responsible for a "Flora of the West Riding" which is equally successful. The present work, therefore, fills up an important gap and completes the botanical survey of the county. The enumeration of plants is preceded by a historical review of earlier compilations and a series of sketches referring to the physiography, meteorology and plant distribution of the district. These, taken in combination with the geological map, add greatly to the interest of the book. At the same time, these chapters seem capable of some improvement. The physiographical chapter brings out very clearly the interesting features of the division, the ancient lake-area now represented by a single lake and patches of marsh in the plain of Holderness, the estuary of the Humber, the Cretaceous formation of the Wolds and the mixed character of the deposits in Derwent-land. But the ecological chapter suffers by being too condensed, and "xerophiles," "pelophiles," "arenophiles" are tumbling over one another. The contrast of "xerophiles" and "pelophiles" on pp. 35, 39, represents a confusion of terms. A more detailed and localised account of the plant forms on the different alluvial deposits and an extension of the very brief indication of successive littoral colonies, as well as fuller descriptions of other local formations, might well be given, and the extra space could be more than gained by a less generous use of type and spacing in the flora proper. In the enumeration of plants, the author and his colleagues have endeavoured to sift out the aliens which are especially abundant round Hull Docks, and also the recorded localities have received personal confirmation as far as possible. The author and the Hull Scientific and Field Naturalists' Club deserve the thanks of botanists for a